

Claims

- [c1] 1. A method of obtaining a transformed dihaploid plant comprising:
 - obtaining haploid sporophytic tissue;
 - transforming the haploid sporophytic tissue;
 - producing dihaploid tissue from the transformed haploid sporophytic tissue; and regenerating a dihaploid plant from the dihaploid tissue.
- [c2] 2. The method of claim 1 in which the sporophytic tissue is immature embryo, mature embryo, callus, nodal section, or meristem.
- [c3] 3. The method of claim 1 in which the dihaploid plant is produced by treating the transformed haploid tissue with a chromosome doubling agent.
- [c4] 4. The method of claim 3 in which the chromosome doubling agent is colchicine.
- [c5] 5. The method of claim 1 in which the plant is corn.
- [c6] 6. A method of obtaining a transformed dihaploid plant comprising:
 - obtaining haploid sporophytic tissue;

transforming the haploid sporophytic tissue;
regenerating a haploid plant; and
producing a dihaploid plant from the haploid plant.

- [c7] 7. The method of claim 6 in which the plant is corn.
- [c8] 8. The method of claim 6 in which the sporophytic tissue is immature embryo, mature embryo, callus, nodal section, or meristem.
- [c9] 9. The method of claim 6 in which the dihaploid plant is produced by treating the transformed haploid plant with a chromosome doubling agent.
- [c10] 10. The method of claim 9 in which the chromosome doubling agent is colchicine.
- [c11] 11. A method of obtaining a transformed dihaploid plant comprising:
obtaining haploid tissue;
culturing the haploid tissue to form haploid callus;
transforming the haploid callus;
producing dihaploid callus from the transformed haploid callus; and
regenerating a dihaploid plant from the dihaploid callus.
- [c12] 12. The method of claim 11 in which the plant is corn.
- [c13] 13. The method of claim 11 in which the dihaploid callus

is produced by treating the transformed haploid callus with a chromosome doubling agent.

- [c14] 14. The method of claim 13 in which the chromosome doubling agent is colchicine.
- [c15] 15. A method of obtaining a transformed dihaploid corn plant comprising:
 - obtaining haploid corn tissue;
 - culturing the haploid corn tissue to form haploid callus;
 - transforming the haploid callus;
 - producing dihaploid corn callus from the transformed haploid corn callus; and regenerating a dihaploid corn plant from the dihaploid callus.
- [c16] 16. The method of claim 15 in which the dihaploid callus is produced by treating the transformed haploid callus with a chromosome doubling agent.
- [c17] 17. The method of claim 16 in which the chromosome doubling agent is colchicine.
- [c18] 18. A transformed dihaploid corn plant produced by the method of claim 15.
- [c19] 19. A method of obtaining a transformed dihaploid corn plant comprising:
 - obtaining haploid corn tissue;

culturing the haploid corn tissue to form haploid callus; transforming the haploid callus; regenerating a haploid plant from the transformed haploid corn callus; and producing a dihaploid corn plant from the haploid corn plant.

- [c20] 20. The method of claim 19 in which the dihaploid plant is produced by treating the transformed haploid plant with a chromosome doubling agent.
- [c21] 21. The method of claim 20 in which the chromosome doubling agent is colchicine.
- [c22] 22. A transformed dihaploid corn plant produced by the method of claim 19.
- [c23] 23. A method of obtaining a transformed dihaploid corn plant comprising:
 - obtaining haploid corn tissue;
 - culturing the haploid corn tissue to form haploid multiple bud cultures;
 - transforming the multiple bud cultures;
 - producing dihaploid multiple bud cultures from the transformed multiple bud cultures; and
 - regenerating a dihaploid corn plant from the dihaploid multiple bud cultures.
- [c24] 24. The method of claim 23 in which the dihaploid mul-

tiple bud cultures are produced by treating the transformed multiple bud cultures with a chromosome doubling agent.

- [c25] 25. The method of claim 24 in which the chromosome doubling agent is colchicine.
- [c26] 26. A transformed dihaploid corn plant produced by the method of claim 23.
- [c27] 27. A hybrid corn plant produced by crossing the transformed dihaploid corn plant of claim 26 with another corn plant.